

**BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN**

**Application of Milwaukee Water Works,
Milwaukee County, Wisconsin, for
Authority to Increase Water Rates**

Docket 3720-WR-107

Rebuttal Testimony of Michael Gorman

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A Michael Gorman. My business address is 16690 Swingley Ridge Road, Suite 140,
3 Chesterfield, MO 63017.

4 **Q ARE YOU THE SAME MICHAEL GORMAN WHO FILED DIRECT TESTIMONY IN**
5 **THIS PROCEEDING?**

6 A Yes. I filed direct testimony on April 23, 2010 on behalf of MillerCoors, LLC, a
7 brewery located in Milwaukee which is a large user of water on the Milwaukee Water
8 Works utility (MWW).

9 **Q WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

10 A I will respond to the class cost of service study offered by Staff witness Andrew
11 Behm.

1 **Q PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.**

2 A A review of Staff witness Behm's class cost of service study resulted in my conclusion
3 that he has over-allocated costs to high load factor industrial customers, and
4 under-allocated costs to MWW's smaller customers for the following reasons:

5 1. Mr. Behm used maximum day system demand ratios and maximum hour system
6 demand ratios based on factors that over-allocate costs to base and
7 under-allocate costs to max day and max hour demand functions. This results in
8 an over-allocation of costs to high load factor large industrial customers.

9 2. Mr. Behm made an assumption that all main contributions in aid of construction
10 (CIAC) should be assigned to distribution main functions, and no cost should be
11 assigned to transmission main functions. He stated that he needed to review this
12 assumption based on information that was expected to be provided by MWW
13 later. The information provided by MWW shows that this assumption was
14 inappropriate. Because Mr. Behm allocates transmission mains on max day
15 demand ratios, and distribution mains on max hour demand ratios, this
16 misallocation of CIAC impacts retail sales customers' cost of service. As a result,
17 Mr. Behm is overstating cost of service for high load factor customers, such as
18 MWW industrial customers.

19 3. Mr. Behm allocated all of MWW's \$5 million of purchased power cost for pumping
20 on base volumes. This was unreasonable. Purchased power cost is determined
21 by electrical demands and energy billing units triggered in accordance with the
22 electric utility's pricing structure. Electric demand costs correspond with water
23 demands on the max day or max hour functions. A review of bills from the electric
24 supplier for MWW shows that this electric power cost for pumping should have
25 been allocated on both max hour and base demands. Mr. Behm's failure to
26 allocate cost to max hour resulted in an over-allocation of this cost to base
27 component, and therefore an overstatement of cost to higher load factor industrial
28 customers.

29 4. Mr. Behm's class cost of service study reflected max hour ratios that are
30 significantly different than max hour class demand factors used in MWW's
31 previous rate proceedings. As addressed in my direct testimony, there is no
32 justification for the significant change in max hour allocators for residential
33 customers in this case relative to previous cases, and this change should not be
34 approved in this case.

35 5. As laid out in my direct testimony, Mr. Behm's cost of service study also did not
36 distinguish between the cost associated with small mains and large mains in the
37 assignment of main distribution cost between customer classes. Since large retail
38 customers cannot be served by smaller distribution mains, the cost associated
39 with small mains should not be allocated to larger customers. Mr. Behm's cost of
40 service study as a result over-allocates cost to large industrial customers.

1 6. Finally, while the rate tempering represented by the alternative rate proposal
2 (Exhibit 12.4) is a step in the right direction, it does not go far enough. Because
3 of my concerns with the reliability of Staff's cost of service model, I recommend an
4 equal percentage increase to all rate schedules.

5 **Extra Capacity Allocators**

6 **Q HOW DID STAFF WITNESS BEHM DEVELOP SYSTEM MAX DAY AND MAX**
7 **HOUR RATIOS ON EXHIBIT 12.2, SCHEDULE 4?**

8 A Mr. Behm used a max day and max hour demand ratio of 1.4 and 1.7, respectively, to
9 allocate system costs between max day and max hour extra capacity. Mr. Behm
10 acknowledges that the max day and max hour ratios he used were lower than
11 MWW's actual max day and max hour measured ratios of 1.43 and 1.73, respectively,
12 measured over the period 2004 through 2009. He asserts that his decision to use the
13 lower extra capacity ratios is appropriate based on relatively low extra capacity ratios
14 in calendar year 2009.

15 **Q HOW DO THE MAX DAY AND MAX HOUR EXTRA CAPACITY FACTORS USED**
16 **BY STAFF WITNESS BEHM COMPARE TO THE EXTRA CAPACITY FACTORS**
17 **USED BY STAFF IN PAST CASES, AND THE EXTRA CAPACITY FACTORS**
18 **MEASURED USING THE HISTORICAL DATA PROVIDED TO STAFF?**

19 A This information is shown below in Table 1. The extra capacity factors used by Staff
20 witness Behm in his cost of service study in this case are shown under Column 1.
21 Under Column 2, I show the six-year average extra capacity factors Mr. Behm relies
22 upon in support of his recommendations for this case. Under Column 3, I relied on
23 the same data source used by Mr. Behm to establish extra capacity factors over a
24 10-year period.

TABLE 1			
<u>System Demand Ratios</u>			
<u>Description</u>	<u>Staff Proposed This Case</u>	<u>MWW Actual</u>	
		<u>6-Year Average</u>	<u>10-Year Average</u>
	(1)	(2)	(3)
Max Day Factor	1.40x	1.43x	1.46x
Max Hour Factor	1.70x	1.73x	1.79x

1 As shown above, the max day and max hour factors used by Mr. Behm
2 (Column 1) are lower than the max day and max hour extra capacity factors
3 measured on average over the last 6-year (Column 2) and 10-year period (Column 3).
4 All this information suggests that Staff's max day and max hour factors in this case
5 understate the extra capacity demand factors on the MWW system.

6 **Q DID STAFF PROVIDE ANY JUSTIFICATION FOR ITS USE OF LOWER MAX DAY**
7 **AND MAX HOUR EXTRA CAPACITY FACTORS?**

8 A Yes. Staff witness Behm asserts that the max day/max hour ratios have been
9 declining over time, thus supporting his opinion that max day/max hour ratios that are
10 lower in this case compared to MWW's last case, and lower than average over the
11 last 6-year and 10-year periods, are appropriate.

12 **Q DO YOU BELIEVE STAFF'S RATIONALE FOR USING THESE LOWER MAX**
13 **DAY/MAX HOUR RATIOS IS REASONABLE?**

14 A No. Max day/max hour consumptions can be impacted by the economy and many
15 facets of the weather, including, in particular, rainfall. Because these factors can
16 move significantly over time, and cannot be predicted, it is necessary to capture

1 normalized conditions in properly measuring the base and extra capacity demands on
2 the MWW system. This is best accomplished by use of average demand ratios over
3 a period of time rather than by looking for trends, without consideration of weather
4 and rainfall, as Staff appears to have done in this case.

5 A review of rainfall and temperature as reported by the National Climate Data
6 Center is provided on my Exhibit 13.2, Schedule 1 for its rainfall and temperature
7 area near Milwaukee. As shown on this schedule, the temperature for 2008 and
8 2009 was abnormally cool thus likely reducing peak hour/peak day water demands
9 relative to more normal weather conditions. Rainfall varied significantly over the last
10 6- and 10-year periods but was above average in 2008 and 2009. Since weather and
11 rainfall are not stable, an average max day/max hour ratio measured over the last
12 6- or 10-year periods is far superior to Staff's proposal to rely more on 2009 and
13 recent trend data. I believe Staff's decision to not rely on either the 6-year average or
14 10-year average max day/max hour demand ratios for its cost of service study was
15 inappropriate.

16 Water sales can be impacted by weather and rainfall for several reasons. For
17 example, temperatures can impact the demands for water for residential, commercial
18 and industrial customers based on water used for environmental systems, lawn
19 irrigation, hydration, and other factors. Rainfall can impact water demand primarily for
20 lawn irrigation, recreational uses, and other factors. The above average rainfall in
21 2008 and 2009 most likely was a significant contributing factor to the below average
22 max day and max hour demand ratios measured in those years.

1 **Q COULD THE OVERALL DROP IN DEMAND ACCOUNT FOR THE LOWER MAX**
2 **DAY/MAX HOUR RATIOS USED BY MR. BEHM?**

3 A No. While demand has dropped, that drop, in and of itself, will not directly affect max
4 day and max hour ratios. The declining trend in water consumption for MWW may
5 not necessarily equate to a change in the load profile of the demands on the system.
6 Rather, it can equate simply to a reduction in the number of customers. As such, max
7 day/max hour relationships to average flow may not be impacted by a trend in
8 reduced consumption on the overall system. Therefore, simply assuming that max
9 day/max hour demand ratios would change due to declining sales is without merit.
10 Customers who remain on the system very likely have comparable load
11 characteristics for max day/max hour demands, and average flow demands, as the
12 system had in previous periods. The only accurate way to measure changes in
13 demand ratios and average flow conditions is to complete a normalized max
14 hour/max day demand ratio and average base usage study.

15 **Q DO THE MAX DAY AND MAX HOUR DEMAND RATIOS SIGNIFICANTLY IMPACT**
16 **THE ALLOCATION OF COSTS BETWEEN BASE AND EXTRA CAPACITY?**

17 A Yes. This is shown in the percent of total costs that are allocated to base, max day
18 and max hour using the demand ratios from Staff's last case, this case, and what
19 would be appropriate using demand ratios from a 6-year and 10-year average as
20 shown below in Table 2. As shown in this table, Staff is proposing to allocate
21 approximately 71.4% of costs to base on a max day extra capacity methodology, and
22 58.8% of costs to base on a max hour extra capacity factor. This is a substantial
23 change from the prior case when max day extra capacity cost elements Staff
24 allocated 52% to base and 48% to max day. Further, for max hour, Staff had
25 previously allocated only 35% to base and 65% to max hour. The historical data

1 argues in favor of decreasing cost allocated to base and increasing the costs
2 allocated to extra capacity demands.

TABLE 2				
<u>Description</u>	<u>Cost Allocation</u> (Percent of Total Cost)		<u>MWW Actual</u>	
	<u>Staff Proposed</u> <u>This Case</u>	<u>Staff Proposed</u> <u>Last Case</u>	<u>6-Year</u> <u>Average</u>	<u>10-Year</u> <u>Average</u>
	(1)	(2)	(3)	(4)
Base/Max Day	71.4/28.6	52.0/48.0	69.6/30.4	68.3/31.7
Base/Max Hour	58.8/41.2	35.0/65.0	57.5/42.5	55.5/45.5

3 **Q WHAT IS THE EFFECT ON MR. BEHM'S COST OF SERVICE STUDY OF**
4 **UNDERSTATING THE MAX DAY AND MAX HOUR DEMAND RATIOS?**

5 **A** By understating the max day and max hour demand ratios, Mr. Behm under-allocates
6 costs to these extra capacity functions and over-allocates costs to base usage. By
7 under-allocating costs to extra capacity functions, Mr. Behm has inappropriately
8 over-allocated costs to high load factor customers (i.e., Industrial) of MWW.

9 **Contributions in Aid of Construction (CIAC)**

10 **Q PLEASE EXPLAIN THE CONCEPT OF CIAC, AND ITS RELEVANCE TO A**
11 **WATER RATE CASE.**

12 **A** CIAC represents plant investment that was paid for by customers and contributed to
13 MWW. Customers normally contribute plant that is needed to interconnect to a water
14 utility, if the interconnection cost exceeds the cost the utility is willing to incur to make
15 the connection. If the plant is contributed, MWW has no cost associated with the

1 plant investment. As such, CIAC typically has zero cost and does not increase
2 MWW's cost of service.

3 **Q PLEASE EXPLAIN WHAT YOU MEAN BY DISTRIBUTION PLANT AND**
4 **CONSTRUCTION PLANT.**

5 A Plant under construction is plant that has not yet been placed in-service. As
6 distribution plant is constructed and placed in-service, it is then re-categorized from
7 construction work in progress (CWIP) to plant in-service, and then would be properly
8 considered part of the Company's distribution plant. Prior to it being placed
9 in-service, however, the plant would be considered construction work in progress and
10 not yet included in the distribution plant investment.

11 **Q DID MR. BEHM CHANGE THE STAFF'S ALLOCATION OF UTILITY FINANCED**
12 **PLANT BETWEEN TRANSMISSION AND DISTRIBUTION MAINS RELATED TO**
13 **CIAC?**

14 A Yes. In this case, Mr. Behm assumed that all CIAC should be allocated to distribution
15 plant and none of it allocated to transmission plant. However, Mr. Behm indicated in
16 his testimony that he was awaiting additional information from MWW to verify the
17 accuracy of this assumption.

18 **Q DID MWW PROVIDE THE INFORMATION SHOWING THE AMOUNT OF**
19 **CONTRIBUTED PLANT THAT SHOULD BE ALLOCATED TO TRANSMISSION**
20 **AND DISTRIBUTION MAINS?**

21 A Yes. MWW provided a spreadsheet that showed the amount of CIAC for mains
22 versus utility-financed mains. PSC Ref. No. 131219.

1 As shown on Exhibit 13.2, Schedule 2, approximately 29.3% of all CIAC is for
2 pipe larger than 12 inches. This is transmission pipe based on MWW's and the
3 Staff's classifications. Hence, only 70.7% is for distribution mains 12 inches and
4 smaller.

5 **Other Allocation Issues**

6 **Q DID STAFF INCLUDE A SEPARATION OF SMALL MAINS AND LARGE MAINS**
7 **FOR ALLOCATION OF COST TO CUSTOMERS BASED ON THEIR SIZE OF**
8 **SERVICE?**

9 A No. For the reasons set forth in my direct testimony at pages D13.14 through
10 D13.16, Staff's cost of service study for MWW allocates significant costs associated
11 with small distribution mains to large customers. This allocation is inappropriate,
12 because these small distribution mains represent costs that are not incurred in order
13 to provide service to large customers. Indeed, small distribution mains cannot
14 physically be used to provide the volumetric demands of large customers. Therefore,
15 small main costs should not be allocated to MWW's large customers.

16 Rather, these small distribution mains represent costs that are incurred by
17 MWW to provide service to smaller commercial and residential customers. As such,
18 distribution costs should be separated between large distribution costs and small
19 distribution costs. Large distribution main costs should be spread across all retail
20 customers, and small distribution main costs should only be allocated to smaller
21 commercial and residential customers. This allocation reflects MWW's actual cost
22 causation of distribution service, and ensures each customer pays a fair share of the
23 distribution cost MWW incurs to provide them service.

1 **Q DID STAFF ALLOCATE A PORTION OF ITS TRANSMISSION MAINS TO MAX**
2 **HOUR?**

3 A No. For the reasons described in my direct testimony at pages D13.11-D13.12, Staff
4 only allocated transmission main cost based on the base and max day factor. This
5 was not appropriate or reasonable, because transmission plant is designed and its
6 cost reflects a component for max hour demands. Staff's proposal to not allocate a
7 portion of transmission main cost on max hour, results in the allocation of too much
8 transmission main cost to base, and too little to extra capacity. This misallocation in
9 turn over-allocates transmission cost to high load factor customers, like MWW's
10 industrial customers.

11 **O&M Allocations**

12 **Q DO YOU HAVE ANY COMMENTS ABOUT MR. BEHM'S ALLOCATION OF**
13 **OPERATION AND MAINTENANCE EXPENSE ON EXHIBIT 12.2, SCHEDULE 7?**

14 A Yes. Mr. Behm allocated \$5 million of power cost in Account 623 on only base
15 volumes. This is inappropriate. MWW's purchases of electric power from Wisconsin
16 Electric Power Company would be tied to that utility's tariff rate structure.

17 As shown on Exhibit 13.2, Schedule 3, assuming a typical utility pumping load
18 factor of 45%, MWW's power cost bills would be composed of an approximately
19 31.6% demand charge and 68.4% energy charge. A power demand charge is tied to
20 the highest peak consumption during the month. Hence, power demand corresponds
21 to peak day or peak hour allocation. Energy charges are tied to average usage.
22 Hence, energy charges correspond to base volume water demand.

1 Since MWW's major reason for electrical power cost is for "pumping," and the
2 pumps operate to supply customers' base and peak day/peak hour demands, power
3 cost should be allocated using base volume and max day demands.

4 **Q WHAT IS THE EFFECT OF ALLOCATING POWER COST ONLY TO BASE**
5 **VOLUMES?**

6 **A** Allocating power cost on base volumes alone allocates far more power cost to high
7 load factor customers. In contrast, allocating a portion of power cost to max day/max
8 hour functions assigns part of power cost to the system customer's contribution to the
9 peak demands. Allocating power cost then on only base demand, and not reflecting
10 the components of power cost which is driven by max hour/max day demand
11 conditions, over-allocates cost to high volume, or high load factor water customers
12 such as MWW's industrial customers.

13 **Class Capacity Ratios**

14 **Q DO YOU HAVE ANY COMMENTS ABOUT MR. BEHM'S DEVELOPMENT OF**
15 **EXTRA CAPACITY MAX DAY AND EXTRA CAPACITY MAX HOUR FOR HIS**
16 **CLASS COST OF SERVICE STUDY ON EXHIBIT 12.2, SCHEDULE 9?**

17 **A** Yes. Mr. Behm states at page D12.17 of his testimony that these customer class max
18 day and max hour extra capacity factors were not based on actual load
19 characteristics of the system. Rather, they are based on his judgment and his review
20 of max day and max hour assessments of other water utilities. This is simply not
21 reasonable. Mr. Behm is significantly modifying max hour consumption
22 characteristics for residential customers relative to previous cost studies. Again, he
23 bases this on a relatively narrow review of actual consumption for residential

1 customers. That time period may not reflect normalized weather conditions, rainfall
2 and other factors which can significantly impact residential water use consumption,
3 which is highly sensitive to these factors. As such, a more normal level of max
4 day/max hour allocations for residential classes should continue to be used in setting
5 rates for MWW.

6 **Rate Tempering**

7 **Q FINALLY, DO YOU HAVE ANY COMMENT ON THE RATE MITIGATION**
8 **APPROACH PROPOSED BY STAFF IN ITS ALTERNATIVE RATE DESIGN**
9 **PROPOSAL?**

10 **A** I agree with Staff's proposal to ensure that the spread of the claimed revenue
11 deficiency in this proceeding is reasonable to all customers. However, because of
12 the significant concerns I have with Staff's cost of service study I believe its proposed
13 rate mitigation spread is not just and reasonable. Specifically, the Staff's rate
14 mitigation spread still provides industrial customers an above average rate increase.
15 Urban industrial customers receive a 30.7% increase, in comparison to a system-wide
16 increase of 28.6%. Staff at least in part justifies this rate spread based on its cost of
17 service study. For the reasons discussed above, I believe Staff's cost of service
18 study substantially over-allocates cost to high load factor industrial customers.
19 Therefore, Staff's estimated cost of service for an industrial customer of MWW I
20 believe is substantially overstated. Until a class cost of service study can be
21 completed which corrects all the deficiencies in Staff's cost of service study, I
22 recommend that the cost of service study not be relied on to support a rate spread in
23 this proceeding.

1 Therefore, absent a complete and reasonable cost of service study to identify
2 cost of service in this proceeding, I believe all rate classes should receive no more
3 than the system average increase in this proceeding. I believe this would be a more
4 balanced mitigation of the rate increase in this proceeding because a proper design
5 of rates to recover cost cannot be done without an updated and corrected cost of
6 service study.

7 **Q DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

8 **A Yes, it does.**

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